

Series	Time	Ccy	Price	Bank
1 2	13:00:00	CHF	1.4817	SEBM
1	13:00:02	JPY	130.64	PRUN
1	13:00:09	JPY	130.60	CHFX
1 2 3	13:00:10	DEM	1.8225	HYPO
1 2 3	13:00:12	DEM	1.8231	NWNC
1 2 3	13:00:16	DEM	1.8228	BOMX
1 2	13:00:19	CHF	1.4818	NWND
1 2 3 4	13:00:24	DEM	1.8226	BGFX
1 2 3 4	13:00:24	JPY	130.58	BGFX
1 2 3	13:00:24	DEM	1.8230	KOCT
1 2 4	13:00:24	CHF	1.4822	BGFX
1 2 3	13:00:30	DEM	1.8225	KBXE
1	13:00:31	JPY	130.58	DRE1

Figure 1:

```

Tick      = ( Time , Item )
Item      = "FT" ( Contract , DataSpecies )

Contract  = FX | Deposit
FX        = "FX" ( Per , Expr )
Deposit   = "Deposit" ( Currency, Period )

DataSpecies = Quote | TX
Quote     = "Quote" ( Bid , Ask , Bank , Source )
TX        = "TX" ( Price , Volume , Seller , Buyer , Source )

Per       = string[3]:f
Expr      = string[3]:f
Currency  = string[3]:f
Period    = string[3]:f
Bid       = float:v
Ask       = float:v
Price     = float:v
Volume    = integer:v
Seller    = string:v
Buyer     = string:v
Bank      = string:v
Source    = string:f

```

Figure 2:

```

(Time,Item)
(08.02.1998 07:44:58,FT(Contract,DataSpecies))
(08.02.1998 07:44:58,FT(FX(Per,Expr),Quote(Bid,Ask,Institution,Source)))
(08.02.1998 07:44:58,FT(FX(USD,JPY),Quote(124.05,124.1,CHFX,REUTERS)))

(Time,Item)
(08.02.1998 07:49:34,FT(Contract,DataSpecies))
(08.02.1998 07:49:34,FT(FX(Per,Expr),TX(Price,Volume,Seller,Buyer,Source)))
(08.02.1998 07:49:34,FT(FX(USD,JPY),TX(124.1,1000000,CHFX,BGFX,REUTERS)))

(Time,Item)
(08.02.1998 04:51:47,FT(Contract,DataSpecies))
(08.02.1998 04:51:47,FT(Deposit(Ccy,Period),Quote(Bid,Ask,Institution,Source)))
(08.02.1998 04:51:47,FT(Deposit(USD,03M),Quote(5.5,5.62,BSBB,REUTERS)))

```

Figure 3:

1. (*-*, FT (FX (USD, *), Quote (*, *, *, *)))
2. (*-*, FT (FX (USD, DEM|CHF), Quote (*, *, *, *)))
3. (*-*, FT (FX (USD, DEM), Quote (*, *, *, *)))
4. (*-*, FT (FX (USD, *), Quote (*, *, BGFX, *)))

Figure 4:

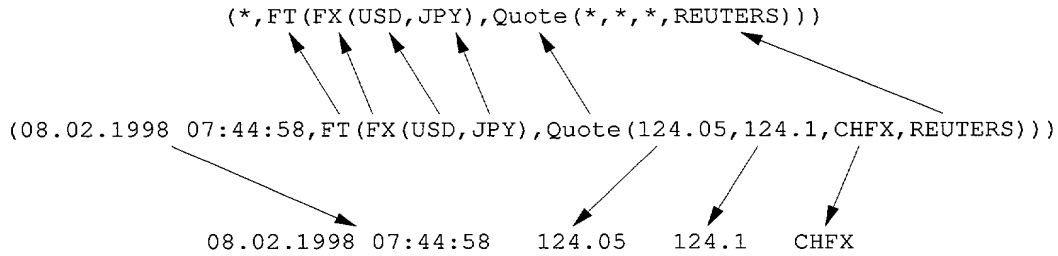


Figure 5:

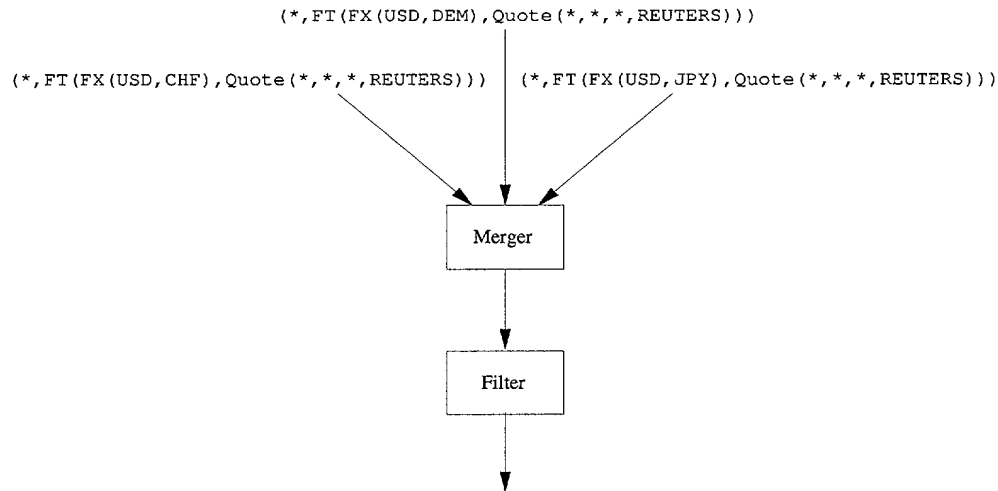


Figure 6:

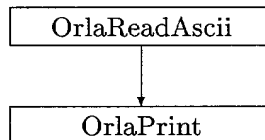


Figure 7:

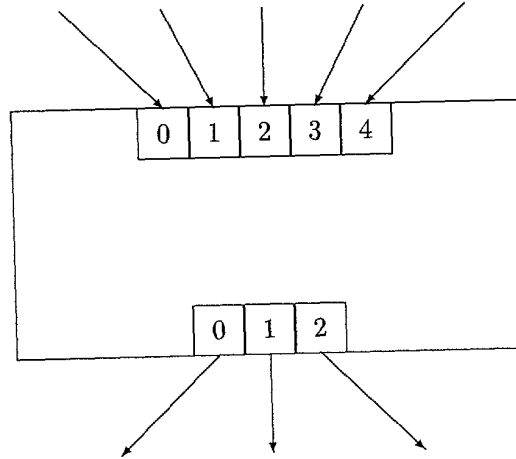


Figure 8:

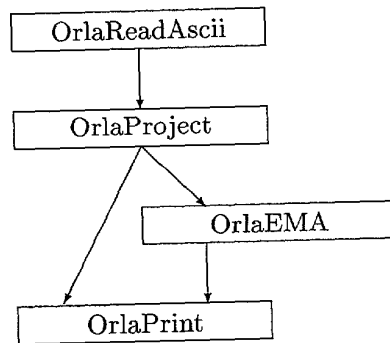


Figure 9: